CBSE Test Paper-04

Chapter 07 Science Control and Coordination

1. Which part of the brain is concerned with muscular coordination in the body? **(1)**

   a. Temporal toke
   b. Cerebellum
   c. Pons
   d. Parietal 10 be

2. Spinal cord is enclosed in bony cage called ? **(1)**

   a. Diaphragm
   b. Vertebral column
   c. Cranium
   d. Ribs

3. Which is the longest part of the neuron? **(1)**

   a. Dendrites
   b. myelin sheath
   c. cell body
   d. Axon

4. Which of the following statement are correct about glands? **(1)**

   A. All glands are ductless
   B. Pancreas is a mixed gland
   C. Glands are specific in their action
   D. Endocrine glands are ductless

   a. B and D
   b. All of these
   c. B and C
   d. A and C

5. Which centre regulates swallowing, coughing and vomiting? **(1)**

   a. Pons
   b. cerebrum
   c. spinal cord
   d. medulla oblongata

6. Name the part of neuron **(1)**

   (a) where information is acquired.
   (b) through which information travels as an electrical impulse.

7. Why are roots called positively geotropic? **(1)**

8. Write name of gonadotropic hormones. **(1)**

9. What is the function of gustatory receptors? **(1)**

10. Explain how the movement of leaves of a sensitive plant different from movements of shoots towards light? **(3)**

11. Which part of the brain is more important? Why? **(3)**

12. How endocrine glands do helps in maintaining feedback control? **(3)**

13. Differentiate between Spinal reflex and Cranial reflex **(3)**

14. What are hormones? State their role in the working of the human body.Or Define 'Hormone'. What are the general functions of 'hormones'? **(5)**

15. Explain briefly movements in plants. **(5)**

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Answers

1. b. Cerebellum

   Explanation: It is responsible for precision of voluntary actions and maintaining the posture and balance of the body.

2. b. Vertebral column

   Explanation: spinal cord is protected by a bony structure called vertebral column, it present in dorsal surface.

3. d. Axon

   Explanation: Axon is the longest part of neuron that connects cell body and nerve ending. Axons are in effect the primary transmission lines of the nervous system.

4. c. B and C

   Explanation: Pancreas is known as a mixed gland because it performs functions of both exocrine and endocrine glands; and Most hormones produce an effect on specific target tissues that are sited at some distance from the gland secreting the hormone.

5. d. medulla oblongata

   Explanation: The medulla oblongata is located in the brain stem, anterior to cerebellum. This is a cone-shaped nerve cell located in the hind brain, which controls a number of involuntary functions like coughing, sneezing and vomitting.

6. (a) Dendrite of cell body.
   (b) Axon

7. This is because the roots always grow towards the gravity of the Earth.

8. Follicular Simulating Hormone (FSH), Luteinising Hormone (LH) and Luteotropic Hormone (LTH) are gonadotropic hormones

9. The gustatory receptors are the receptors that provide sense of taste. These are distributed over the surface of the tongue in individual organs called taste buds.

10. Movements in Mimosa pudica (touch sensitive plant) occur in response to touch. In such movements, plant cells change shape by changing the amount of water in them resulting in folding up and drooping of leaves. This phenomenon is called thigmonasty and this movement is independent of direction of stimuli.
Plants respond to a light by growing in or away from the direction of light, this is known as phototropism. Movement of shoots towards light indicates positive phototropism.

11. The medulla oblongata is the most important part of the brain. Because the medulla oblongata helps regulate breathing, heart and blood vessel function, digestion, sneezing, and swallowing. This part of the brain is a center for respiration and circulation.

12. The timing and amount of hormones released are regulated by feedback mechanism. For example, glucose level in the blood is maintained constant. The blood glucose levels may be maintained constantly by either of the following feedback mechanism.
    1. High glucose level in the blood induces the pancreatic cells to produce insulin which converts glucose to glycogen.
    2. Less glucose level in the blood do not induce the pancreateic cells to produce insulin so that less conversion of glucose to glycogen may occur.

13.

Spinal reflex	Cranial reflex
1) It occurs through the spinal nerves.	1) It occurs through the cranial nerves.
2) It is controlled by the spinal cord.	2) It is controlled by the brain.

14. Selye in 1948 defined hormones as "Physiological and organic compounds produced by certain cells (endocrine glands) for the sole purpose of directing the activities of distant parts of the same organism." They are also referred to as "chemical messengers". They have excitatory effects on some organs and inhibitory effects on others.
    Functions of hormones:

i. Hormones stimulate the tissue activity.
ii. Hormones regulate growth and reproduction.
iii. Hormones control metabolism.
iv. Hormones synthesize, store and utilize substances like glucose.
v. Hormones conserve water and minerals.

15. Plant Movement

Tropic movement or tropism

Directional movement of specific part of plant in response to external stimuli is called **tropism**.

These movements are very slow.The movement of plant part can be either towards or away from stimulus.

If the movement of plant is towards stimulus,it is called **positive stimulus**.

If the movement of plant is away from stimulus,it is called **negative stimulus**.

1. **Phototropism:** It is the directional movement of plant part in response to light stimulus.
   If plant part move towards light it is called as **positive phototropism.**
   For Ex:Stem or shoot
   If plant part move away from light it is called as **negative phototropism.**
   For Ex:Roots
2. **Geotropism:** It is the response to gravity.
   If the plant part moves in the direction of gravity it is called **positive geotropism**
   For Ex:Roots grow downwards.
   If the plant part moves against the direction of gravity it is called **negative geotropism.**
   For Ex:Stem grows upwards
3. **Chemotropism** : Response to chemical stimuli.
   If Plant part move towards chemical stimuli it is **positive chemotropism**
   If plant part move away from chemical stimuli it is **negative chemotropism.**
4. **Hydrotropism** : Response to water.